

**REMARKS**

The preceding claim amendments and the following remarks are submitted as a full and complete response to the Office Action issued on April 19, 2007. Claims 1, 6 and 16-20 have been amended. Support for these claim amendments can be found throughout the specification, as set forth in Section II. No new matter has been introduced by adding new claims.

Applicants acknowledge that the rejection under the obviousness-type double patenting and various obviousness rejections have been withdrawn.

Applicants respectfully request entry of the claim amendments and favorable reconsideration of the application.

**Rejection of Claims 1-8 and 16-20 under 35 U.S.C. §112, first paragraph**

Claims 1-8 and 16-20 have been rejected for new matter. Applicants respectfully traverse this rejection.

While not acquiescing to the propriety of this rejection, Applicants have amended claims 1 and 16-20 to recite the claim language that is closer to the phrase as appeared in the original description. Support for the recitation of claim 1, wherein the cysteine responsible for dimer formation is deleted or substituted by another amino acid, can be found, for example, at pages 9-10. The recitations of claims 16, 18 and 19, which are similar to the recitation of claim 1, are also supported by the description of pages 9-10.

With respect to the previous amendment of claim 8, support can be found, for example, at page 5, step (a) and at page 6, second paragraph.

The Office also alleged that the limitation in claim 18, "process of obtaining a solution . . . free from a dimeric bone morphogenetic protein factor formed by an intermolecular disulfide bond between two monomeric bone morphogenetic factors," is not supported by the original description. Applicants would like to direct the Office's attention to the amended claim 18, which now additionally contains a purifying step. Support for this amendment can be found throughout the specification, for example, at page 16.

In the claimed process, oligomers, even if it occurs during refolding such as wrongly-folded or wrongly-bridged dimers, trimers etc., are removed via purification. Correctly folded active dimers cannot be formed because the cysteine for the intermolecular bridge is missing from the bone morphogenetic factor. The Office also appears to agree with this by indicating that "[w]ith mutation of the cysteines, the proteins would be incapable of dimerizing and thus the solution would be 'free from a dimeric bone morphogenetic factor'." See page 6 of the Office Action. Therefore, since the solution obtained by the claimed process is necessarily free from oligomeric side products, the solution as claimed in claim 18 is also necessarily disclosed in the description.

As set forth above, Applicants respectfully submit that the claims 1, 8 and 16-20 as either previously or currently amended have ample support from the original

disclosure of the instant application. Accordingly, reconsideration and withdrawal of this new matter rejection are respectfully requested.

**Rejection of Claims 1-8 and 16-20 under 35 U.S.C. § 103(a)**

Claims 1-8 and 16-20 have been rejected under 35 U.S.C. §103 as obvious over Andou et al. (U.S. Patent No. 6,551,801) in view of Hotten et al. (U.S. Patent No. 6,972,321). Applicants respectfully traverse this rejection.

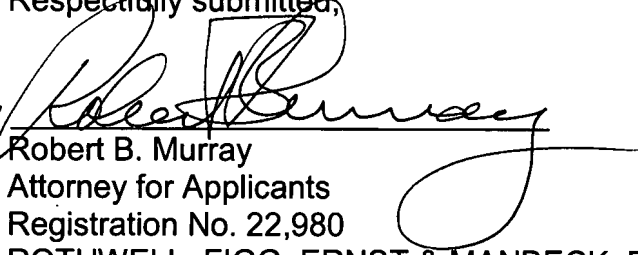
The Office Action asserted that the cited patents are 102(e) prior art. Thus, this rejection can become moot if the reference is disqualified as prior art under 35 U.S.C. 103(c). In order to meet the requirement, the subject matter which would otherwise be prior art to the claimed invention and the claimed invention must be commonly owned or subject to an obligation of assignment to a same person at the time the claimed invention was made.

Applicants respectfully submit that Andou et al. was subject to an obligation to be assigned to Biopharm Gesellschaft zur Biotechnologischen Entwicklung von Pharmaka GmbH ("Biopharm"), which is the assignee of the present application. The present application was also subject to an obligation of assignment to Biopharm at the time the claimed invention was made. Therefore, under 103(c), Andou et al. is disqualified as prior art. Applicants respectfully submit that since the primary reference is removed from the prior art, this obviousness rejection should be withdrawn. Reconsideration and withdrawal of the obviousness rejection are respectfully requested.

In view of the foregoing, it is submitted that the present application is now in condition for allowance. Reconsideration and allowance of the pending claims are requested. The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

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